THE BOSTON
MEDICAL AND SURGICAL JOURNAL.

VOL. C. — THURSDAY, MAY 22, 1879. — NO. 21.

TYPHOID FEVER: ITS CAUSES AND SOURCES, AS EXPLAINED BY THE GERM THEORY OF DISEASE.[1]

BY ALEXANDER R. BECKER, M. D., OF BERKELEY, CALIFORNIA,
Fellow of the California State Medical Society, etc.

SOURCES.

HAVING thus briefly traced the contagium — which is *the cause* of typhoid fever — and its modus operandi, let us now inquire into its sources and methods of dissemination.

We have spoken of the contagium as a specific germ. By this we did *not* mean that there is one disease-germ, which, under varying circumstances, may produce different diseases of this group; on the contrary, we mean that each of the contagious diseases has its own specific contagium, which, under favorable conditions, will reproduce that same disease, but which cannot, under any circumstances, cause any other disease. We therefore believe that every case might be traced to a previous case, *if* all the circumstances could be known; and we do *not* believe in the occurrence of cases *de novo*, because the weight of evidence is decidedly opposed to the theory of spontaneous generation.

"The epidemics which spread havoc among us, from time to time, are not spontaneously generated; but they arise from an ancestral stock, whose habitat is the human body itself. It is not on bad air or foul drains that the attention of the physician will primarily be fixed; but upon disease-germs, which no bad air or foul drains can create, but which may be pushed by foul air into virulent energy of reproduction." [2]

Here we have two points of the greatest importance noted. Our attention must primarily be fixed upon the "disease-germs, which no bad air or foul drains can create," any more than they could create vultures; but we must not therefore neglect the insanitary conditions, because the bad air will debilitate the system, and render it less able to withstand an attack of disease, while foul drains may be the direct

[1] Concluded from page 677.

[2] Professor John Tyndall, in British Medical Journal, June 24, 1871, page 661.

means of conveying the disease-germ to a susceptible system; and this may be accomplished in one of two ways, — the first of which pertains especially to city life, while the second imperils both city and country folk. In our large cities we have sewers, with which are connected our wash-basins, bath-tubs, water-closets, and kitchen-sinks. They thus receive an enormous amount of animal and vegetable matter, which, unless very speedily removed, will be liable to decomposition, with its resultant gases. They also receive the water which has been used to wash the persons and clothing of patients suffering from measles, scarlet fever, and the like, the sputa of diphtheritic cases, and the dejections of those suffering from typhoid fever. If, therefore, the sewer becomes, in any way, choked, so as to allow of the formation and accumulation of the gases resulting from decomposition, these gases naturally seek to rise, and find their easiest outlet through insufficient traps, into our kitchen-sinks, water-closets, bath-tubs, and wash-basins; and it is probably in this way that disease-germs do, in some cases, find their way to susceptible systems. We believe, however, that this danger has been greatly overestimated, and that many cases which are apparently well traced to such a source should be credited to a very different one.

In a painstaking and able report on two epidemics of typhoid fever, in Crosshill and Eaglesham, suburbs of Glasgow, Scotland, in 1875, Eben. Duncan, M. D., repeatedly points out the fact that the occurrence of the disease did *not* coincide with insanitary conditions. For instance: "Here were all the conditions which would most certainly have originated a terrible outbreak of fever, had sewer gases been at this time capable of producing it. Sewer gases admitted freely on the surface of the drinking-water, sewer gases in the houses, choked and filthy privies on the common stairs, — what was the result? In tenement A, occupied by eight families, only one of these families was affected; in tenements B, C, D, and E, lived thirty families, among whom not a single case of the fever had occurred; in tenement F, one case occurred; in tenement G, two families were affected; in tenement H, no case occurred. Further, the cases which did occur occurred, as will afterwards be shown, not from sewer-gas poisoning, but from a different cause."

See, also, the very striking and important report on Diphtheria, — which is of course apropos here, as diphtheria belongs to this group of diseases, — in the Fifth Annual Report of the Board of Health of the City of Boston, dated April 30, 1877. We here find recorded a series of observations covering two years, during which there was "an unusual and destructive prevalence of diphtheria," resulting in "1064 deaths," which was "at the rate of 30.16 in every 10,000 of the population of the city, at all ages." Under the heading Local Distribution we find the following pertinent remarks: —

"Diphtheria is fatal in a tolerably uniform ratio of the number of cases attacked; that is to say, epidemics do not vary very widely in their intensity and destructiveness, so that statistics of death from this cause are a fair index of the inroads of the disease upon the public health. It is further obvious that facts pertaining to the local distribution of diphtheria are of especial interest in explaining and illustrating ætiological theories. If, for example, contagiousness is the essential characteristic of this disease, we shall find the deaths distributed quite generally, without regard to special local conditions. If, on the other hand, the disease depends for its origin and spread upon insanitary social and soil relations, we shall see epidemics shunning healthful localities, and always at home in ill-drained, sewage-sodden, miasmatic regions, inhabited by an unwholesome, overcrowded, improvident population. Now, what testimony has Boston to offer on these points, gathered from the experience of the last two years?"

Here comes a table, showing the mortality rates per 10,000 for each of the nineteen districts into which the city is divided, which can be intelligible only to those intimately acquainted with the topography of Boston. Then follows immediately: "These district mortality-rates do not present such distinctive characters as the believer in uncleanliness as a cause of diphtheria would like to see. For example, the greatest number of deaths, in proportion to population, occurred in the upper part of East Boston, a section not specially characterized by unwholesome local or social conditions; much of the territory is high land, well drained, and occupied by a thrifty class of people. Then, again, District XIX. (Brighton), rural in character, sparsely settled, and presenting many attractive and apparently salubrious features, had a diphtheria death-rate considerably in excess of that of the city at large. On the other hand, we find that at the 'North End' (District IV.), a section whose name has, for many years, been synonymous with bad material and moral conditions, the inhabitants were blessed with comparative immunity from the inroads of diphtheria, although the death-rate from croup was excessive. But the next adjacent section of territory (District V.) is a surprising exception; this is the region around Haymarket Square, a locality formerly occupied by a mill-pond, but at present inhabited, upon the poorly sewered filled land which has taken the place of the mill-pond, by a people of the poorer class, crowded in tenement blocks. In this insalubrious territory, presenting, in its filth and in its compact population, just the conditions for the spread of a miasmatic-infectious epidemic, the death-rate from diphtheria was lower than in any other portion of the city,—an anomaly most difficult to explain."

"These results, it must be confessed, are a surprise, and, in some respects, a disappointment. The ætiology of diphtheria would be much

clearer if we found the disease always most abundantly disseminated in localities well adapted for the germination and spread of the miasmatic and infectious group of diseases. We are compelled to admit that it has not been so found in this invasion."

Anticipating, however, that the objection might be made "that considerable territorial areas may present quite uniform and satisfactory sanitary characters as a whole, while individual dwellings in those sections may have exactly the unwholesome qualities upon which stress is laid," the writer goes on to show that "a careful examination was made of every dwelling in which a death from diphtheria or croup had occurred," by an inspector who "was especially chosen for his fitness for the work, for his close observation, and keen and accurate detection of imperfections in dwelling-house hygiene." The results of this inspection are thus summarized: —

"It thus appears, under the head of diphtheria, that nearly one half the premises inspected (forty-seven per cent.) presented nothing objectionable in point of drainage and general cleanliness; in thirty-nine per cent. the drainage was defective; in the small proportion of three per cent. the yards and cellars were dirty; and in the remaining eleven per cent. sunken lots, stagnant water, or filthy dumps made the surroundings open to objection. The summary for croup makes a still more favorable exhibition. It is, then, our duty, in view of the concurrent testimony, to reject the idea that filth fosters the origin and dissemination of diphtheria."

These observations, emanating from so careful and reliable a source, and extending over a period of two years, are very significant, especially when we note the almost pathetic tone of disappointment in which the writer states the results to which he has been forced. During this time, diphtheria prevailed to an unusual degree within the city limits; and yet "less in the 'South Cove District' than in Brighton, less in the 'Old Mill-Pond District' than on Beacon Hill, and less at the 'North End' than at West Roxbury." If it were not for the careful house-to-house inspection by an expert whom the Board so heartily indorses, some comfort might be derived by a belief in the faulty plumbing and trapping of the better class of houses. But even that satisfaction is denied to the believer in the filth origin of these diseases. In fact, that theory is utterly incompetent to explain the condition of things presented in this report.

Sewer gas, then, is not so black a devil as it has been painted. It is foul, noxious, a thing to be avoided and fought against; but it is not guilty of *all* the crimes that have been charged against it. But where *is* the culprit? Let us glance at our country cousins.

Typhoid fever has long been recognized as especially a disease of the country; and this will not seem surprising, when we remember the

utter carelessness with which privies, drains, and manure-heaps are located with reference to wells and water-courses. Even these filthy leachings cannot, of course, originate the disease, unless they contain the specific contagia. But if the dejections from a typhoid-fever patient are deposited in a privy, or on a manure-heap, which is so placed that leaching may occur into the well, or brook, or river, it is impossible to say how far those contagia may travel before they find their way to an appropriate nidus, and light up what may appear to be an original case.

Moreover, we know that a large proportion of the farmers, situated within a radius of fifty or even a hundred miles of our large cities, look upon the sale of milk as a more or less considerable portion of their business; and that the city milk supply is daily gathered from hundreds of farms along the lines of railroad there centring. If, then, the water supply of even one of these farms should become contaminated by the dejections of a single case of typhoid fever, the contagia would be conveyed to just so many people as drank the milk coming from that farm. Nor, in saying this, do we necessarily accuse the farmer of watering his milk; for the mere washing of the pans and cans with such water would be quite sufficient. And we must remember that the contagia would naturally be attracted by a fluid so rich in nitrogen and water.

When we thus comprehend how hundreds of city people may be exposed to either one of the diseases of this group by the occurrence of a single case fifty miles away in the country; when we remember the yearly prevalence of these diseases through the country districts, and the usually complete ignorance of the city consumer in regard to the original source of his milk supply, we must stand appalled at the dangers to which we are continually exposed in the consumption of this most important and seemingly innocent article of food. And we *may* come to believe that milk may be even more dangerous than sewer gas. That this is not the fearful imagining of mere theory, but plain and terrible truth, we will now prove by observed and recorded facts.

This subject has not, so far as we can learn, received the attention it deserves in this country. But in England several epidemics have been directly traced to the milk supply. From the appendix to Dr. Duncan's very valuable report I take the following particulars: —

"In September, 1857, a domestic servant, suffering from typhoid fever, was brought home from Liverpool to her parents in Penrith, who kept two or three cows, and retailed the milk to fourteen families in the town. Seven of these families took the disease. No case of the fever had happened in Penrith for some months before this girl's arrival."

In 1870, an epidemic of typhoid prevailed in a small district of Isling-

ton. "One hundred and forty-two families were supplied by a particular dairyman, and seventy of these families were invaded by typhoid within ten weeks. . . . . Suspicion rested on a fouled water-tank, the water of which was used for washing the milk-cans. The family of the dairy-man, *who died of the disease*, denied that water had ever been used for diluting the milk. . . . . We have yet left the admitted fact that the cans were washed at the pump."

In 1872, an epidemic occurred in Armley, in the borough of Leeds. It was reported on by Dr. Ballard, who traced it to the milk supply of a particular dairy, in which the dairyman himself was lying ill with typhoid fever, and where two of his children also suffered from the same disease. One hundred and seven cases occurred in this epidemic, which suddenly ceased on July 27th. The following is an extract from Dr. Ballard's report:[1] "This sudden cessation of the fever epidemic among this section of the community on July 27th means that the cause of the epidemic had ceased, for them, a fortnight or more previously; since in enteric fever there are commonly eleven days of incubation, and several other days before medical advice for its symptoms is sought, July 10th would therefore be about the time when the cause of the epidemic among customers of the dairy suddenly ceased to operate. Now, on July 10th Dr. Robinson had the handle of the pump at the Hall Lane Dairy chained up, and thenceforth it was kept chained. There was coincidence, therefore, between the cessation of the fever and the cessation of the opportunity that the dairy had to supply a particular water, while there was no suggestion that the cows or their milk had undergone any change. . . . . The dairyman's house is one of three cottages. The well is sunk (close to end wall) to a depth of thirty-six feet, in the porous shale of the district. On removing stone cover, the depth of water was found to be twelve feet. A large dung-pit, full of manure, was situated about five yards off, and a privy and sunken tub for urine a few yards off in another direction." The well was found to be foul.

Another epidemic occurred in Leeds in 1872, which was reported by Dr. Robinson.[2] He says: "A farm-house in the country became infected with typhoid fever towards the latter end of September; the head of the house died, and subsequently five members of the household suffered from the disease. Milk from this infected source, purchased by a Leeds dairyman, was supplied to a certain respectable district of the town, in which locality a virulent outbreak of typhoid manifested itself, and eighty persons who obtained their milk from this dairyman contracted fever, fourteen of whom died."

In 1873, an epidemic occurred at Parkhead, Glasgow, and was re-

[1] Official Report upon an Outbreak of Enteric Fever at Armley, Leeds, 1873.
[2] Report on Sanitary Condition of Leeds, 1872.

ported by Dr. Russell.[1] He says: "Of seventy-three families supplied by a particular dairyman, who had three children suffering from typhoid, twenty-two had fever."

At Bolton, forty-seven out of fifty families, supplied by the same dairyman, were smitten with typhoid fever. The brook which supplied that dairy with water was found to have been contaminated, higher up, by the dejections of a typhoid patient.[2]

In 1875 occurred the epidemics in Crosshill and Eaglesham, reported by Dr. Duncan, in which he very clearly and distinctly traces the infection to the milk supply. We have quoted from him (page 698) to show that cases did not arise from sewer gas; and he there promises to show us that such cases as did occur, in those crowded and sewer-gas-filled tenements, arose from another cause. See what further he has to say about them: "Of the total number of fifty-nine families living in these eight tenements, four families had fever, and these four families got their milk supply from the three Eaglesham dairies [which he has shown to have been contaminated], and in every case almost entirely from that source."

When we arrive at a full comprehension of this source of typhoid fever, our first feeling is one of dismay at the difficulties to be encountered in tracing the epidemics of large cities, and still more in securing efficient preventive measures; but our second feeling is one of relief, in the fact that we have at last discovered a principal source of this insidious group of diseases, and thus know where we must direct our energies. Prevention, to be effective, must be radical. There is at present no known way of destroying contagia in such a fluid as milk, except by the prolonged exposure of such fluid to a very high temperature. Ordinary boiling is quite insufficient for the purpose. Real prevention could be secured only by legislative enactment forbidding the sale of milk, in either large or small quantities, without a license, which license should be obtainable only after thorough inspection of the premises by an officer appointed for this duty by the State Board of Health; and these licenses should be good for one year only, and should be renewed only after renewed inspection. With a sufficient number of competent and faithful officers assigned to this duty, there is no reason why our milk supply should be contaminated by these germs, and so one most important source of contagion would be removed.

We fully appreciate the enormous difficulties in the way of securing such legislation, on account of the ignorance and apathy of the legislators and of the powerful opposition which would be brought to bear by the dairy interest. But if the people could be made to see

[1] Glasgow Medical Journal, August, 1873.

[2] Dr. John Dougall, Glasgow Medical Journal, May, 1873.

(1) the enormous death-rate from the contagious fevers, (2) the great danger of drinking milk containing contagia, and (3) the strong probability of such contamination of their milk supply, owing to the ignorance and carelessness of dairymen, public opinion would soon demand the passage and strict enforcement of such preventive measures.

But in the mean time we must individually do what we can — by the disinfection of stools at the moment of passage, the early disinfection of soiled clothing, and the most careful inspection of the water and milk supply — to reduce the chances of contagion. And here is opened up a grand field for labor for our country brethren. Let them each and all carefully inspect the dairy farms in their respective neighborhoods; advise with the farmers in regard to the sanitary conditions of their premises; and, on the occurrence of disease, promptly notify their own patients, and also their brethren in the city or town to which the milk from that farm is supplied. By such a course they could effectually prevent a large proportion of the epidemics which now scourge our cities year after year, avert an incalculable amount of anxiety and sorrow, and rob grim death of many a victim.

GENERAL PARESIS.[1]

BY IRA RUSSELL, M. D., OF WINCHENDON.

General paresis was not known as a distinct disease until described by Esquirol in 1822, who gave a lucid account of its symptoms, and pointed out its incurable nature. At about the same time Bayle noted that the mental and motor symptoms were synchronous, and they were attributed by him to a chronic inflammation of the arachnoid. In 1826 M. Calmeil gave a complete account of it, and to him is accredited the merit of having been the discoverer. It is a remarkable fact that his pathology is in accordance with the results of modern research. All writers upon this disease consider it the most fatal form of insanity, destroying as it does, in a short time, the mind and life of all attacked by it. It is a disease of middle life, more common in males than in females, the proportion being as eight to one. Childhood and old age are exempt. Seldom is there a case seen where the patient is younger than thirty or older than sixty. The average age at which patients are attacked is about forty-four. The disease is more common in densely populated communities than in the rural districts. Its frequency seems to be influenced by our higher forms of civilization, although the high and the low, the rich and the poor, the learned and the unlearned are subject to it, but more frequently the healthy, active, well-to-do men engaged in business enterprises requiring great and persistent men-

[1] Read before the Worcester North District Medical Society.

tal strain, with irregular habits and loss of sleep. For a considerable period of time the disease has been common in England and on the continent of Europe, and more rare in the United States, but few cases having been observed in our Southern and Western States. Dr. Compton, of Mississippi, who has had large experience among the insane in the Southern States, informs me that he has never seen or known of a case of general paresis among the negroes.

For convenience the disease may be divided into three stages, both of the psychical and motor symptoms: First, *psychical* symptoms. During the first stage the patient exhibits oddities, eccentricities, peculiar mental manifestations, restlessness, and irritability of temper. As the disease advances into the second stage there is an exaltation of ideas; the patient imagines that he is possessed of unbounded wealth, or power, or influence. He can manage all the banks in the country, or the railroads, and owns all the steamships on the ocean. At the same time his friends will observe loss of memory, and an increase of irritability of temper, and occasional attacks of maniacal excitement with epileptiform seizures. He loses self-control, especially in regard to trivial and social observances. And then, in regard to general conduct, his behavior towards those with whom he associates becomes strange, and he exhibits unusual likes and dislikes in his own family. If a man of business, he falsifies his word, and resorts to tricks and meanness, quite different from his usual methods, committing little acts of dishonesty, and perhaps theft. His maniacal attacks and epileptiform seizures are more and more frequent; he will have delusions, and his mind will become completely deranged. He is unwilling to submit to the least constraint, flies into furious paroxysms of temper, and assaults his nearest and best friends without provocation. The higher controlling faculties of the mind are in abeyance, and the lower instincts are brought into a state of activity. His conversation becomes lewd, and his conduct towards women indecent. During all this time the patient regards himself as perfectly well, and will not for a moment admit that there is anything the matter with him. This condition of mind gradually subsides, and he passes into the third stage, a good-natured or demented condition, and after a longer or shorter period becomes indifferent and oblivious to everything going on around him.

This state of dementia may last for many months, the patient being in a state of complete idiocy. The above is a brief outline of the psychical symptoms generally observed in this fatal disease. The motor symptoms are as follows: First stage. Among the earliest symptoms will be observed an irregular shape of the pupils of the eyes and a persistent contraction of the occipito-frontalis muscle, causing the eyes to be widely opened, the forehead wrinkled, giving an exalted, pleased expression to the face. The tongue is protruded with some difficulty, has

a tremulous or fibrillar movement, and is suddenly withdrawn. There is twitching of the nostrils and upper lip, with frequent tremors of the latter; the voice is slightly altered, and there is a thickness of speech reminding one of a person partially intoxicated. The hands lose their coördinating power, and a marked difference is observed in the handwriting. There is an alteration in the gait, a peculiar hitch or shuffle easily recognized after having been once observed. These symptoms become more and more marked as the patient advances into the second stage, when he easily loses his balance and falls down. As he advances into the third stage he becomes more and more helpless: he is unable to feed himself, stand, or walk, and finally has complete paralysis of his arms and legs; all control over the sphincters is lost, and he becomes an object of pity and disgust. The above are the usual and more common psychical and motor symptoms observed in this fatal disease. Individual cases may have unimportant variations, though no one familiar with general paresis would be likely to make a mistake in diagnosis.

Ætiology. — Heredity is supposed to have but little influence as a producing cause in this form of insanity. The most common causes assigned are intemperate use of alcoholic stimulants, lewdness, and excess of brain work. It is probable that lewdness has been overestimated as a cause, for the reason that nearly all paretics, during the course of the disease, manifest erotic desires, symptoms due to the disease rather than the cause of it. There is no doubt that intense and long-continued mental application, combined with an irritable nervous temperament, and loss of sleep are the most common exciting causes.

Pathology. — Much has been written upon the pathology of general paresis, and a great variety of opinions have prevailed in regard to it. It is a notable fact, however, that the early writers, Esquirol and Calmeil, are in accord with the more modern observers, namely, that the disease is essentially a chronic inflammation of the membranes and cortex of the frontal part of the brain. At the last meeting of the American Medical Association, at Buffalo, Dr. Kempster, of Oshkosh, Wisconsin, read a long and able paper upon general paresis, giving the morbid appearances observed in thirty-five autopsies of patients dying from it. Dr. J. Crichton Browne, of the West Riding Asylum, England, has given a great deal of attention to the pathology of this disease, and his observations agree with those of Dr. Kempster. The constant lesion found has been a thickening of the pia mater, and adhesions of the same in spots to the apices of the convolutions of the anterior lobes of the cerebrum; so that when the brain has been hardened in a solution of nitric acid, one part of the acid to eight parts of water, the pia mater will show the points of adhesion, and when removed will tear some of the brain substance with it at the points of adhesion. The adhesions

are on the summits of the convolutions, which are flattened and hardened, the adhesions never extending into the sulci.

The cortex shows signs of inflammation, and sometimes there is a fatty degeneration of the deeper portions. Both Drs. Kempster and Browne have been impressed by the evidence afforded by the post-mortem examinations of the truth of the localization of the functions of the brain, as taught by Ferrier and others. The disease commences in the anterior and parietal portions of the cerebrum, and progresses from before backward, and many of the psychical and motor symptoms seem to correspond with the supposed mental and motor centres as these centres become affected by the progress of the disease. I will observe further that a French writer, Dr. Lionet, in summing up his conclusions in a recent work on general paresis, says that this disease most generally has an individual origin without hereditary predisposition, lasting from two to four years. When a hereditary predisposition exists, it presents itself under one of two forms, the congestive or the vesanic. The congestive will have remissions, while the vesanic are insane from the beginning.

Prognosis. — The disease is always fatal. When of individual origin it lasts on an average about three years. When of the congestive form, with remissions, somewhat longer. Patients suffering from this form have seasons of apparent improvement, and after having been sent to an asylum in a maniacal condition, and remaining a while, great improvement is observed, and friends are encouraged to hope for a final recovery. Sometimes, even, the patient resumes business, and appears quite well, but sooner or later breaks down again, with all his symptoms greatly aggravated. The vesanic form, according to the French writer above referred to, has no remissions, but lasts longer than either of the other forms mentioned.

Treatment. — But little can be said about treatment. Nothing has been discovered that seems to exert any controlling power in arresting this disease. It is not usually recognized until it has existed for a considerable time, and when it has passed the curable stage, if there is such a stage; but much can be done to mitigate the symptoms as they appear. The patient should be allowed all the freedom compatible with safety to himself and others: his surroundings should be as pleasant as it is possible to make them; his diet should be nutritious; and, if necessary to procure sleep, anodynes should be administered, consisting of chloral hydrate, hyoscyamus, and meconiate of morphia, in combination, in small doses. The calabar bean, or some of its preparations, may be used to control excitement, especially of the erotic kind.

THE METRIC SYSTEM IN MEDICINE.[1]

BY EDWARD SEGUIN, M. D.

MR. PRESIDENT AND CONFRERES, — I told you at our last meeting that the International Medical Congress of Geneva, acting upon the proposition of the American delegates, had appointed a commission to report at the International Medical Congress of Amsterdam upon the possible progress of uniformity in medicine and pharmacy, — each commissary having to report for his nation. Now I ask you what shall be our share in this report?

[The preliminary step towards international uniformity in medicine and pharmacy is the adoption of the international metric system, now accepted by all nations except two, this country and England.]

(*a.*) In this country, the metric agitation has been kept up by several publications, distributions of metres in all their forms, the action of metric bureaus and medical organizations; and the metric conversions of the last two years are too many to be all reported.

(*b.*) The metric system has been applied to all the branches of the U. S. Marine Hospital service, and has worked well from the start, a year ago.

(*b.*) The officers in charge of the vital statistics of New York, Boston, and other large cities use the metric system, and complain of being obliged to convert into metric figures the fantastic weights and measures of the documents emanating from our profession.

(*b.*) The Medical Society of the State of Pennsylvania at its session of June, 1878, passed resolutions urging the use of the metric system upon its members, by the county societies, and that it be taught in the public schools.

(*c.*) The Delaware County Medical Society voted the same resolutions, including the one relating to the public schools.

(*e.*) The Medical Society of the State of Massachusetts was the first of all, I believe, to accept the metric system.

(*f.*) The Rhode Island State Medical Society has voted the same, to take effect January, 1880.

(*g.*) The Medical Society of the State of New York "requests of those who present papers at its future meetings that the metric system be employed in their communications, and that this system be exclusively used in the public proceedings of this society." (February 6, 1879.)

(*h.*) The Medical Society of the County of New York resolved (March 24, 1879), that "the metric system shall henceforth be used in the minutes of this society, and in all the papers published under its authority."

[1] Adopted by the American Medical Association, May 8, 1879, at Atlanta, Ga.

(*i.*) The Medical Society of King's County, after hearing a paper of Dr. Edward Seguin on the use of the metric system in medicine, and the necessity of organizing a metric league, "appointed [March 18, 1879] a committee to consider these recommendations and report."

(*j.*) The Georgia Medical Society of Savannah "takes pleasure in giving their moral support to the adoption of the metric system by the American Medical Association, and will put this system in practice in their city" (Savannah, April 23, 1879).

(*k.*) I can recite the text of forty similar adhesions to the use of the metric system in medicine, but prefer to close these quotations by the terse expression of Dr. F. Morse, Secretary of the Kansas Medical Society: "We approve of the metric system, but we wait for the example of other States." This sentence contains in its kernel all the "internal" question of weights and measures.

As for the "foreign" or, better, "international" question: (2.) On one hand the invitation of the International Medical Congress to join the other nations in a plan of "uniformity, medical and metric," is a precious opportunity to do willingly what we shall have to do soon on moral compulsion.

(*b.*) On another hand, England, whose stubbornness is partly responsible for our own supineness in this matter, begins to shake herself up.

(*c.*) The *London Lancet* of November 23, 1878, gives a formal adhesion to the use of the metric system in medicine; and in its issue of February 1, 1879, expatiates on "the very great boon which would accrue to the medical profession by the introduction of metric weights and measures, and by the abandonment of the grotesque and obsolete system which is now in vogue."

(3.) And the talented editor of the *British Medical Journal* wrote to me (February 4, 1879, London): "I hope I may be able to excite sufficient interest in the subject here to bring about practical measures. I shall be aided by your progress, and be glad to hear details. Shall you come to our Cork meeting, to bring tidings of metric progress?"

The significance of this letter resides in the fact that the *British Medical Journal* is the organ of the British Medical Association.

[Altogether, these public and private documents are warnings to the American Medical Association to accept the metric system before the next meeting of the British Medical Association; no nobler rivalry than this being possible between England and this republic. Considering that foremost in human interest is the uniformity of weights in prescriptions, which would prevent the grave or fatal results attending the composition abroad of medicine prescribed here, and the uniformity of measures, which would give the possibility of writing observations uniform — that is to say, comparable at sight — with those of

other nations; then considering the possibility of mathematically accounting for the vital functions intrusted to the physician, in health at first, during their waste in disease, and in the course of their recuperation under treatment, and to make these individual records serve as mathematical elements of true medical statistics; considering also — from a domestic point of view — that it is the duty of this association to lessen and shorten the dangers inherent to the transition from one system of measures and weights to another, and that it will be highly creditable for this association to have brought to bear all its latent force on such an important issue, I submit to you the following resolutions: —

Resolved, (1.) That the American Medical Association adopts the international metric system, and will use it in its transactions.

(2.) Requests that those who present papers at its future meetings employ this system in their communications, or reprints thereof.

(3.) Requests the medical boards of the hospitals and dispensaries to adopt the metric system in prescribing and recording cases; and that the faculties of the medical and pharmaceutic schools adopt it in their didactic, clinical, or dispensing departments.

(4.) Requests the physicians familiar with the metric system to help their confreres and the druggists in its application; and the delegates present at this session, to work up the acceptance of the metric system by their respective county and state societies.

(5.) Requests our president to name a Metric Executive Committee, of which he shall be the ex-officio chairman, and whose task shall be to give unity and rapidity to this metric movement.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY R. H. FITZ, M. D.

PATHOLOGY.

Transmission of Erysipelas. — Mr. Barker[1] refers briefly to the contents of a brochure by Tillmans, in which are contained the results of his experiments concerning the nature of the erysipelatous process, and the conclusions drawn from these experiments.

In the attempt to inform himself as to the possibility of conveying erysipelas by inoculation from a diseased to a healthy individual, twenty-five inoculations were made. In three instances animals were successfully inoculated with erysipelas from the human subject, and in two cases animals were infected from other animals. He consequently believes "that erysipelas is inoculable in rare cases, and that fluids from

[1] London Medical Record, March 15, 1879, page 91.

an erysipelatous part display a specific contagious action." He also believes that inoculation of the human subject is possible.

When a 2.4 per cent. solution of carbolic acid was added to virus, portions of which had been successfully inoculated in certain cases, no effect followed its inoculation in four instances. When various morbid substances, not taken from erysipelatous parts, were inoculated, no erysipelas resulted, although some of them were of extreme putridity. Death resulted, however, in certain instances from evident septicæmia.

In the attempt to determine the relation of bacteria to erysipelas it was found that they were present in certain cases, though not in all, and it was consequently inferred that the extension of the disease may take place independently of their presence.

Typhoid Fever from Diseased Meat. — The occurrence of an epidemic of typhoid fever at Kloten calls attention to a novel factor in the origin of this disease. Although a detailed account of the epidemic is eventually to appear, Walder,[1] who had personal charge of a large number of the cases, gives a summary of the principal points obtained from his investigations.

The occasion was a musical festival, at which were about seven hundred participants, and of these nearly five hundred fell sick. The general course of the disease and the nature of the anatomical lesions in the fatal cases examined were such as to characterize the epidemic as one of typhoid fever. It was thought that meat was the infecting material, from the fact that for many years no case of typhoid fever had occurred within the neighborhood, with the exception of one, which, though existing at the time of the sudden and general outbreak of the disease, took place at a distance from the seat of the festival. The water, of which but little was drunk, and that generally mixed with wine, came from a remote part of the village, and was conducted from a height through an iron pipe. Although the greater part of the meat was certified to as coming from healthy animals, forty-three pounds of veal from a single calf only a few days old were brought from a separate locality. It was ascertained that this animal was sick at the time it was slaughtered. The lungs and brain were sold to other persons than the one who furnished the dinner for the festival, and it was learned that the lungs looked in spots like a spleen, and that the three persons for whom the lungs were cooked fell sick, and presented similar symptoms to those manifested by the diseased sharers in the festival. The brain was sold with others to a distinct family, and it was noticed that one of the brains was of a dark blue color, of a bad smell, and was therefore not used. The other brains were cooked and eaten, and like symptoms to those above referred to occurred in members of this family. From an inquiry into the distribution of meat from the butcher's

[1] Berliner klinische Wochenschrift, 1878, xxxix., xl.

shop on the day before and the day of the festival, it was learned that several of those eating such meat were likewise infected, and it is thus directly suggested that the forty-three pounds of veal sufficed to poison almost the whole amount of meat eaten at the festival.

Three days after the musical entertainment a children's celebration took place at Kloten in the same place, and the same butcher provided the meat for this occasion, but none of the several hundred children present became sick.

The epidemic broke out within twenty-four hours, the cases becoming daily more numerous. Nearly forty per cent. of all the cases occurred on the fifth and sixth days, and ninety per cent. of all were sick within eight days. Professor Huguenin was the first to suggest that the epidemic was the result of a calf-typhoid, a view which met with much opposition, since nothing was known of the existence of typhoid fever in the bovine species. The doubts were wholly removed when some twenty-seven cases of secondary infection subsequently arose. Their course was that of ordinary typhoid fever.

The occurrence of typhoid fever in calves was established by Walder, who examined the bodies of two animals which were killed four days after they became sick. Enlargement and injection of Peyer's patches, swelling of the mesenteric and retro-peritoneal lymphatic glands, and enlargement of the spleen were present in both cases. The calves were owned by separate individuals, and fatal cases of typhoid fever occurred in the families of their owners. The surroundings were such that it seemed probable that the animals had become infected in consequence of the disease in the families owning them.

Acetonæmia as the Cause of Diabetic Coma. — The occurrence of sudden death in cases of diabetes has long been apparent, and the origin of the essential condition, coma, has been sought for in various ways, but without any satisfactory conclusion having been arrived at. It has been supposed that some poison occasioned by the disease was present, and in certain instances it was thought that the coma was due to uræmia. In most cases, however, the symptoms of uræmia are lacking.

Again, it has been thought that the presence of sugar in the blood was an efficient cause of the coma. This view was based upon the coexistence of a decided diminution of the sugar in the urine and the onset of the comatose symptoms. The latter, however, appear in most cases without the former, and the general importance of the retention of sugar consequently loses its value.

The presence of a peculiar odor, compared to that of vinegar, chloroform, or beer, has frequently been observed in the breath, urine, and fæces of diabetic patients, and has also been perceived in the bodies of those who have died from diabetes. The smell has been thought to be

that of acetone, a substance which has been regarded as a frequent product of acetous fermentation, and which may theoretically arise from the decomposition of glucose. It has therefore been thought that the diabetic coma may be the result of the formation of this substance in the blood, through the decomposition of the sugar there present. In corroboration of this view is the statement that acetone may produce the post-mortem appearances found in diabetic coma.

The experiments of Kussmaul, however, show that the effects of acetone are essentially like those of alcohol, and that a toxic action demands large doses.

In the editorial notice [1] from which the above statement is condensed, it is concluded "that while there is strong evidence that diabetic coma is, in many cases at least, accompanied by, and probably due to, the formation in the blood of substances of the ethyl-acetic series, sometimes capable of yielding acetone, there is not yet sufficient evidence that the symptoms are due to the presence of acetone in the blood to justify the diagnosis of acetonæmia."

Nervous Dyspepsia. — Leube [2] calls attention to the importance and possibility of eliminating from the group of chronic gastric catarrhs a form of dyspepsia which he regards as essentially a nervous affection, a nervous dyspepsia. The relation of nervous symptoms to the act of digestion he considers to be the direct result of the mechanical irritation of the nerves of the stomach at the beginning of digestion, and not a consequence of the absorption of the chemical products of abnormal digestion. A sensation of fullness in the epigastrium, regurgitation, nausea, irregular appetite, cerebral congestion, excitability, disinclination for mental work, a feeling of fatigue, especially in the legs, and sleepiness may all be regarded as normal results of a slight excess over moderate eating.

When these symptoms become unusually marked and permanent, they give rise to a severe chronic affection, whose cause is to be sought for in an abnormal reaction of the nerves of the stomach during digestion, and secondarily of the entire nervous system. This nervous dyspepsia is entirely distinct from the nervous symptoms which occur in chronic gastric catarrh, cancer of the stomach, and other affections, and only that form can be called a nervous dyspepsia in which there is no anatomical evidence against the exclusive affection of the nervous system, especially of the nerves of the stomach.

This disease is to be found almost wholly among the upper classes, affects either sex indiscriminately, and usually young people. Its essential feature is the misproportion between the severe subjective symptoms of the patient and the objective results of the respective act of

[1] The Lancet, May 11, 1878, 689.

[2] Deutsches Archiv für klinische Medicin, 1878, xxiii. 98.

digestion. This misproportion in the cases reported was determined objectively by an examination of the contents of the stomach, obtained by means of the œsophageal sound, seven hours after a meal of a definite sort.

The differential diagnosis between this affection and cancer of the stomach is readily made when the rapidly advancing cachexia, the age of the patient, the epigastric pain, the periodical vomiting, and the appearance of the matter vomited, with finally the evidence of the tumor to be obtained on palpation, are present to characterize the latter disease. When there is doubtful or obscure evidence of cancer the symptoms correspond rather with those of chronic catarrh.

The essential difference between nervous dyspepsia and chronic catarrh of the stomach lies in the fact that in the latter affection there are prominent loss of appetite, abnormal decomposition of the gastric contents, a prolonged stay in the stomach of the ingesta, with frequent vomiting of the same associated with abundant mucus. In nervous dyspepsia, on the contrary, the time of digestion is normal, the food passes through the stomach, and there is no mucus present in whatever may be removed from the stomach through the œsophagus. Nervous dyspepsia, furthermore, becomes probable if a carefully conducted dietetic regimen produces no effect upon a hypothetical chronic catarrh. This probability is rendered certain when the stomach is washed out, and the contents are found to give evidence of a normal digestion, while favorable results follow a general strengthening treatment rather than one directed towards the act of digestion.

The differential diagnosis between nervous dyspepsia and ulcer of the stomach is more difficult. For in many cases of the latter affection the symptoms may be the same, and the contents of the stomach indicate a normal digestive act. The effects of treatment are deemed of special importance in making the differential diagnosis in such cases.

As the symptoms of dilatation of the stomach correspond with those of chronic catarrh, and the results of physical examination are usually sufficient to establish the diagnosis, this lesion rarely needs to be specially differentiated. The same is true of gastralgia, whose neuralgic nature is so pronounced, manifested by a violent paroxysmal pain with intermissions freed from any dyspeptic symptoms whatever.

Hepatic Pulsation without Tricuspid Insufficiency. — After calling attention to the hitherto accepted diagnostic importance of a systolic hepatic pulsation as pathognomonic of the existence of an insufficiency of the tricuspid valve, Rosenbach [1] states that cases occur in which such a pulsation, not to be distinguished from that produced by tricuspid insufficiency, may exist in the absence of this lesion. There are, consequently, two forms of hepatic pulsation to be recognized, only one of which is associated with tricuspid insufficiency.

[1] Deutsche medicinische Wochenschrift, 1878, xl., xli., xlii.

After reporting a case of the second exceptional variety, he gives the following explanation of its occurrence: The condition of apparent special importance was an aortic insufficiency, in which affection of the heart, above all others, the difference between the initial and terminal arterial tension is the greatest, and the smallest arteries, even the capillaries, pulsate. It is therefore quite possible in such cases for a hepatic pulsation to occur. That such does not ordinarily take place is probably due to the absence of favoring conditions, which were present in the case reported. These were considered to be a decided enlargement of the liver, with a powerful action of the left ventricle and a narrow aorta. The impulse resulting from the powerful initial tension thus became readily transmitted to the enlarged and elastic liver easily accessible to the touch.

In uncomplicated aortic insufficiency an enlargement of the liver from passive venous congestion only takes place when the left ventricle is incompetent, or the arterial elasticity is diminished; consequently the conditions on the part of the heart and arteries which favor an arterial hepatic pulsation are usually lacking when the liver is thus enlarged. The cause of the favoring combination in the reported case was attributed to the presence of an obliterated pericardium and a pleuritic exudation which produced a passive venous congestion at a time when the left ventricle was still competent to overcome the aortic lesion.

(*To be concluded.*)

THE AMERICAN MEDICAL ASSOCIATION.[1]

GENERAL SESSIONS.

The general sessions were held in the morning, beginning on Tuesday, May 6, 1879, and terminating on the following Friday; they were well attended, business was conducted in an orderly manner, and the annual addresses upon the progress of the several branches of medical science, by the chairmen of the several sections, were unusually interesting and valuable.

The address of welcome, delivered by Dr. Logan, chairman of the committee of arrangements, contained the following statesman-like and liberal reference to the *questio vexata* of quarantine in yellow fever, which very happily hits off the real point at issue: —

"For all practical purposes, it is not necessary to demonstrate whether yellow fever is always imported, or whether, under certain peculiar and exceptional circumstances, it arises upon our coast from local causes alone. That it can be imported and will, or can become epidemic from the neglect of proper sanitary regulations in certain localities, will not be questioned. That it may be imported and not become epidemic, in the absence of the circumstances which favor its propagation, will also be admitted without discussion. The

[1] Concluded from page 684.

very warm contest, therefore, which has been carried on for many years in regard to the exotic or local causes of yellow fever does not seem to be justified by the necessities of the case, or the importance of arriving at conclusions of a definite character with reference to the possibility of excluding it altogether as an epidemic from our shores. Let the facts of importation or local origin, or of both, be as they may, no argument is needed to establish the proposition that no means of preventing the occurrence of yellow fever should be neglected, which could, by possibility, be brought into requisition.

"The value of a properly regulated system of quarantine cannot be successfully controverted. The value of an enlightened and thorough system of internal sanitary regulations cannot be estimated. In both points of view, the facts developed in regard to the recent epidemic of yellow fever upon our coast are a sad commentary upon the wisdom and fidelity of both state and local authorities. Not being a statesman, and this not being the time nor the occasion to discuss the question of federal or state jurisdiction, which has excited some controversy of late, I will still venture to say that if those States through whose borders the fell destroyer makes his incursions continue to be insensible to the lamentations of widows and orphans and the wreck of homes and fortune, I for one would gladly welcome the intervention of the paternal care of the general government in the effort to save the lives of the people, even though it be at the expense of a cherished political idea."

The permanent secretary, after reading the registry list, presented several letters from absentees, among them one from Professor Bowditch, who regretted that a rupture of the tendon of the rectus femoris muscle, caused by a fall, had prevented him from filling his usual place at the meeting.

Dr. Parvin's presidential address was a powerful protest against the materialistic tendencies of pseudo-science; it was frequently interrupted by applause, and the thanks of the Association were tendered in a rising vote. Subsequently five thousand extra copies of it were ordered to be printed for general distribution.

On the first day the usual protests were received against the registration of certain delegates from Arkansas, Indiana, and West Virginia; but the Arkansas matter may now be considered as settled by the action of the Judicial Council in definitely recognizing the one of the contesting state societies of which Dr. Jennings is the secretary.

Second Day. A resolution was offered requesting Congress to abolish the duty upon quinine, which prevailed, after considerable opposition.

Dr. N. S. Davis, of the special committee appointed to consider the recommendations in Dr. Richardson's presidential address of last year, made a report favoring amendment of the present rule governing prize essays, expunging from Section III. all relating to prize essays, and substituting a clause declaring that there shall be four prizes of $250 each for the best original contributions, the chairmen of the sections to be a committee to take charge of the papers and arrange the details of competition. The report was received, and as an amendment was obliged to lie over for one year. The committee was discharged.

The next business being the consideration of proposed changes in the plan of organization, the amendment offered by Dr. J. M. Keller (Ark.), that "in future the Committee on Nominations shall present the name of no person for appointment or election to office or position, save on the Committees on Necrology and Climatology, unless the party nominated be in attendance on the Association at the time," was submitted to a vote and was lost. The following motion, offered by J. J. Caldwell (Md.), to "form an additional section, to be known as the section on neurology and electrology," was also tabled.

An amendment, offered by Dr. T. Clay Maddux (Md.), to form an additional section on diseases of the genito-urinary organs, including syphilis and dermatology, was, on motion, referred for consideration to the section on surgery. The amendment, offered by Dr. A. N. Bell (N. Y.), to consolidate Section IV., on medical jurisprudence and psychology, and Section V., on state medicine and public hygiene, and call it Section VI., was adopted.

A motion, offered by Dr. Davis, to adopt an amendment declaring it to be an infraction of the Code of Ethics for any member of the Association to teach or aid in the instruction of any student of an irregular or exclusive system of medicine brought Dr. Dunster, of Ann Arbor, to the desk, where he delivered a cogent and carefully compiled argument against the amendment, which carried conviction with it. He denounced the amendment both as regards its expediency and its equity. He made a strong point by showing that the measure was based on the assumption that the teaching of scientific medicine to the students of exclusive systems would tend to build up those systems, or that the teaching of truth would establish error. He pointed to the fact that these exclusive students were in attendance upon the public clinics of many of the members of the Association, and could not be prevented from attending; and a literal and rigid application of the rule would also prevent medical authors from teaching such students through their writings. On motion the amendment was laid on the table until the next meeting.

THIRD DAY. Dr. N. S. Davis presented a short report on Ozone. Dr. J. M. Toner, as chairman of the Committee on Necrology, presented a report which included the names of one hundred and fifty physicians who perished in the yellow fever epidemic, with the place and date of death. These were not all members of the Association, but the chairman considered it a duty as well as a privilege to place on record the names of these martyrs in the cause of humanity.

Dr. S. Chaillé, of New Orleans, read a paper on State Medical Societies and State Medicine, which had been referred from the section to the general session, in which he formulated his views as to the relationship existing between the American Medical Association and its constituent societies, and embodied them in some practical suggestions that were acted upon the following day.

Dr. Edward Seguin presented the claims of international uniformity in medical records as attainable by the general adoption of the metric system in scientific and popular medical writings, and its use by representative societies in their transactions.

Dr. S. Chaillé offered a resolution that Congress be petitioned to allow any

student of scientific pursuits to import free of duty any one book for his own use, which was adopted.

Dr. Brodie, of Detroit, presented a communication from the Association of Medical Editors, which denounced the practice of advertising patent and proprietary medicines by medical journals, as calculated to extend the use of such articles, and therefore opposed to the spirit of the Code of Ethics. Referred to the Judicial Council.

Fourth Day. The reports from the sections were received. A report offered by Section IV. was adopted as follows: "The section on state medicine and public hygiene, having approved the following resolutions offered by Dr. Chaillé, respectfully recommend their passage by the American Medical Association: —

"*Resolved*, That a standing committee on the more efficient organization of this Association, and of its branches, consisting of five members, should be appointed by the president.

"*Resolved*, That this committee be instructed to advise and recommend ways and means to secure greater uniformity as well as greater strength of organization of the state medical societies and their auxiliary branches.

"*Resolved*, That among the ways and means be considered: (1.) The compilation of a model code of detailed regulations for the government of state and county medical societies. (2.) The requirement from every state medical society of an annual report, to contain certain data to be specified, and necessary to show the condition and progress of each of these state societies and of their auxiliary branches; and also containing a perfect summary of the peculiarities of its organization, and of the measures being used by it to promote medical organization; and still farther to contain a complete summary of the laws of the State in reference to state medicine, and of the efforts being made to promote the practice of state medicine. (3.) The publication in the annual Transactions of this Association of the consolidated report of the above reports from each State, together with special notes of the meritorious work done by any of the branches of this Association. (4.) The substitution of a periodical medical journal for the present annual volume of Transactions. (5.) The non-recognition by this Association of state societies which make no provision encouraging the organization of auxiliary societies in counties, etc. (6.) The advisability of not electing any person either a permanent member or a member by invitation, unless such person be a member of a state society, provided that there be such a society recognized by this Association in his State. (7.) The advisability of refusing to admit to this Association delegates from societies auxiliary to the state society, unless the certificates of delegates be indorsed by the authorized officer of the state society. (8.) The advisability of refusing to admit any delegates except those selected from, and elected only by the vote of, members who have paid all fines due to their respective county and state societies, and of establishing the principle that only those members of branch societies who are entitled to vote and have paid all fines and dues shall be entitled to delegates. (9.) The advisability of urging every medical college to have at least one lecture delivered to every

graduating class on the importance to the profession and the public of medical organization."

These resolutions were adopted, and the committee was appointed, consisting of Drs. Gross, Pratt, Davis, Bell, and Garcelon.

The Committee on Prize Essays awarded the prize to the contribution signed "In utrumque paratus," entitled A Consideration of Certain Forms of Primary and Secondary (Local) Degeneration of the Lateral Columns of the Spinal Cord, with Especial Reference to an Infantile Rare Form. The announcement that the author was Allan McLane Hamilton, of New York, was received with applause.

The Committee on State Boards of Health announced that such organizations had been established in twenty-one States: Alabama, California, Colorado, Connecticut, Delaware, Georgia, Illinois, Kentucky, Louisiana, Massachusetts, Maryland, Michigan, Minnesota, Mississippi, New Jersey, North Carolina, Rhode Island, Tennessee, Texas, Virginia, and Wisconsin.

The Committee on Nominations made the following report, which was adopted: —

President, Dr. Lewis A. Sayre, of New York.

Vice-presidents: first, Dr. R. Beverly Cole, of California; second, Dr. E. M. Hunt, of New Orleans; third, Dr. H. O. Marcy, of Massachusetts; fourth, Dr. F. Peyre Porcher, of South Carolina.

Treasurer, Dr. R. J. Dunglison, of Pennsylvania.

Librarian, Dr. Wm. Lee, of District of Columbia.

Committee on Library, Dr. Johnson Eliot, of District of Columbia.

Assistant secretary, Dr. Walter Gillette, of New York.

Next place of meeting, New York. Time of meeting, first Tuesday in June, 1880.

Committee of Arrangements: Drs. L. O. Vanderpoel, Stephen Smith, William M. Polk, Robert Weir, Charles I. Pardee, A. A. Smith, T. F. Sabine, of New York; Joseph Hutchinson, of Brooklyn; M. H. Burton, of Troy; and Parker, of Poughkeepsie.

Committee on Prize Essays: Dr. Austin Flint, Sr., chairman; Alfred C. Post, Jos. C. Hutchinson, J. W. S. Gouley, and Montrose A. Pallen, of New York.

Committee on Publication: Drs. W. B. Atkinson, T. M. Drysdale, A. Fricke, S. D. Gross, Caspar Wister, R. J. Dunglison, of Pennsylvania, and William Lee, of District of Columbia.

The following are the nominations for chairmen and secretaries of sections: —

I. Practice of Medicine, etc.: Dr. J. S. Lynch, of Maryland, chairman; Dr. W. C. Glasgow, of Missouri, secretary.

II. Obstetrics, etc.: Dr. Albert Smith, of Pennsylvania, chairman; Dr. Robert Battey, of Georgia, secretary.

III. Surgery and Anatomy: Dr. W. T. Briggs, of Tennessee, chairman; Dr. J. Powell Adams, of Minnesota, secretary.

IV. State Medicine, Medical Jurisprudence, etc.: Dr. James F. Hibbard, of Indiana, chairman; Dr. T. F. Wood, of North Carolina, secretary.

V. Ophthalmology, etc.: Dr. Bolling A. Pope, of Louisiana, chairman; Dr. Eugene Smith, of Michigan, secretary.

Members of Section on State Medicine, Public Hygiene, etc.: Drs. W. H. Hawkins, Arkansas; Jerome Cochrane, Alabama; W. F. Cherry, California; C. Denison, Colorado; C. A. Lindley, Connecticut; Wm. Marshall, Delaware; Thos. Autisell, District of Columbia; J. P. Wall, Florida; J. P. Logan, Georgia; S. Brandeis, Kentucky; S. E. Chaillé, Louisiana; A. P. Snow, Maine; T. B. Evans, Maryland; H. I. Bowditch, Massachusetts; H. B. Baker, Michigan; C. N. Hewett, Minnesota; Wirt Johnston, Missouri; H. H. Mudd, Missouri; J. Black, Nebraska; G. P. Conn, New Hampshire; D. O. English, New Jersey; A. N. Bell, New York; J. C. Walker, North Carolina; J. C. Reeve, Ohio; H. Carpenter, Oregon; Benjamin Lee, Pennsylvania; E. M. Snow, Rhode Island; R. A. Kinlock, South Carolina; T. A. Achison, Tennessee; H. W. Brown, Texas; F. D. Cunningham, Virginia; L. C. Butler, Vermont; E. A. Hildreth, West Virginia; J. T. Reese, Wisconsin; Joseph R. Smith, U. S. A.; A. L. Gihon, U. S. A.

Committee on Necrology: Dr. J. M. Toner, of District of Columbia, chairman; Drs. R. F. Mitchell, of Alabama; J. P. Wall, of Florida; F. W. Hatch, of California; J. B. Cummings, of Arkansas; C. Denison, of Colorado; G. W. Russell, of Connecticut; J. H. Richards, of Delaware; T. S. Hopkins, of Georgia; J. H. Hollister, of Illinois; G. L. Sutton, of Indiana; H. B. Ransom, of Iowa; C. V. Mottrom, of Kansas; Dudley S. Reynolds, of Kentucky; E. A. Lewis, of Louisiana; E. F. Sanger, of Maine; John Morrison, of Maryland; L. F. Warner, of Massachusetts; G. E. Barney, of Michigan; D. W. Hand, of Minnesota; John Browning, of Mississippi; J. M. Richmond, of Missouri; J. R. Black, of Nebraska; L. S. Hill, of New Hampshire; H. D. Didama, of New York; John Blaine, of New Jersey; T. J. Haywood, Jr., of North Carolina; Starling Loving, of Ohio: Frank Woodbury, of Pennsylvania; C. H. Fisher, of Rhode Island; Manning Simmons, of South Carolina; J. B. Lindsay, of Tennessee; H. W. Brown, of Texas; O. F. Fassett, of Vermont; L. S. Joynes, of Virginia; R. W. Hazlett, of West Virginia; J. T. Reeves, of Wisconsin; J. J. Woodward, U. S. A.; A. L. Gihon, U. S. A.

To represent the Association abroad, Drs. Seguin, Yandell, J. M. Da Costa, Gunn, Turnbull, Warren, and J. T. Hodgson.

Delegates to Canadian Association, Dr. H. Hutchins, Dr. W. Brodie.

On motion an honorarium of six hundred dollars was voted to be appropriated for the permanent secretary, "provided so much money remain in the treasurer's hands after paying running expenses."

A resolution was offered by the nominating committee, which was adopted, directing the publication committee to advertise for proposals for publication of the Transactions, and that the contract be awarded to the lowest and most responsible bidder.

Dr. Davis offered a vote of thanks to the railroad and steamship companies who had extended favors, the committee of arrangements, the medical fraternity of the city, and finally to "the people of the queen city of the empire State of the South," which was unanimously adopted by a rising vote.

Dr. Parvin introduced the president elect, Dr. Sayre, who was suffering

from hoarseness, and spoke only with great effort, thanking the association for the honor conferred upon him, and offering them a welcome to New York at the next meeting. Adjourned.

SECTION I.

Practical Medicine, Materia Medica, and Physiology. Chairman, Dr. Thos. S. Rochester, of Buffalo, N. Y.; secretary, Dr. W. C. Glasgow, of St. Louis, Mo.

Dr. N. S. Davis read a number of Clinical and Meteorological Records, which were referred to the Committee on Publication.

A paper upon the Experience of Consumptives in Colorado, and some of the Æro-Hygienics of Elevation above the Sea, furnished by Chas. Denison, M. D., of Denver, Colorado, was also read by Dr. Davis. It was a continuation of previous reports upon the sanitary advantages of extreme altitudes in the treatment of pulmonary diseases. The paper was a very long one, and was only partially read, the author requesting that the section recommend the signal service bureau to prepare charts for his paper. This was granted.

Dr. L. D. Bulkeley presented a paper On the Use of Water in the Treatment of Diseases of the Skin in which the therapeutics of baths were discussed.

The following communications were referred to a sub-committee for examination previous to publication: On Veratrum Viride and its Uses, by Dr. G. F. Cooper, of Georgia; On Plastic Bronchitis, by Dr. W. C. Glasgow, of St. Louis, Mo.; and one on Inflammation of the Hair Follicles of the Beard, by Dr. J. V. Shoemaker, of Philadelphia.

The address of the chairman, read before the general session and referred for discussion to the section, was a careful review of the progress made during the past year in the field of practical medicine, but particularly considered the ætiology of typhoid fever, and recommended a national quarantine regulation against yellow fever. The latter proposition led to considerable discussion, in which the old line of argument that because the disease is sometimes sporadic *ergo* it is never imported was again urged against the usefulness of quarantine. The address was finally referred to the publication committee.

SECTION II.

Obstetrics and Diseases of Women and Children. Dr. E. S. Lewis, of New Orleans, chairman; Dr. Robert Battey, of Georgia, secretary.

Dr. Dunster, of Michigan, spoke of the operation of perineorraphy, and opposed the practice of constipating the bowels after the operation, believing that better results are obtained by keeping the bowels open by laxatives producing one or two evacuations a day. This view was supported by Dr. Pallen, of New York, and others, but opposed by Dr. Albert H. Smith and R. Beverly Cole of California.

Dr. Pallen presented a new model pessary for retroversion, which was on a similar principle to the Hodge lever pessary, but was in construction a ring, to the middle of which was immovably attached the half of another ring placed at an angle of about 60° with the base, and containing two bulbous enlargements near its centre, which, when applied, acted by elevating the fundus uteri. The material of which these pessaries are constructed is of

hard rubber, but the speaker recommended the preliminary use of others of the same pattern, but in soft rubber, until the uterus becomes accustomed to the pressure. The half-ring gives a certain elasticity to the instrument, which entitles it to be called a spring pessary.

Dr. Pallen reported very good results from the use of this device. Two days later the section by appointment considered the question of pessaries and uterine displacements, the chairman appointing Dr. Albert H. Smith to open the discussion. Dr. Smith's remarks showed complete knowledge of the subject, and were listened to with marked attention. Dr. Pallen said that he felt obliged to differ entirely from the theory of Dr. Hodge as to the cause of uterine displacements, and that adopted by the previous speaker. In discussing the pathology of the condition, he stated that the causes of prolapse of the uterus were mainly three. (1.) Chronic congestion. The valveless veins in the uterine wall becoming engorged from alterations in the portal circulation, the organ naturally becomes increased in size and weight (the pathology being analogous to that condition of the pelvic circulation which leads to the formation of hæmorrhoids). (2.) Loss of support from below, owing to rupture of the perinæum. (3.) Mechanical pressure from above by abdominal tumors, exostosis of pelvis, cellulitis, fibroid growths, etc. He repudiated the idea that the broad ligaments are in any proper sense of the term ligaments, or that they rendered any aid whatever in holding up the uterus.

Dr. Campbell, of Augusta, recommended an intra-uterine stem made from a section of a small rubber catheter, in the treatment of flexions; and Dr. Taliaferro recommended a bi-metallic standard as in his experience leading to remarkable results, which he considered to be due to electricity.

The chairman read a paper from Dr. E. Cutter, of Massachusetts, on the treatment of uterine displacements by the stem pessary, and exhibited the apparatus. A report of a fatal case with operation at the fifth month for tubo-ovarian pregnancy was read by Dr. Battey.

Dr. Turnipseed, of South Carolina, exhibited a remarkable set of instruments for operating upon vesico-vaginal fistula; also a new hysterotome; a uterine dilator and speculum; a new vaginal speculum; and, last but not least, "a new apparatus for delivering women without the use of the forceps, on the principle of atmospheric pressure," which utilized the well-known expedient, adopted by boys from time immemorial, to lift bricks by pressing thereon a moist disc of leather having the point of support in its centre. Much time, labor, and misplaced ingenuity were expended upon these instruments, which showed the tendency of an inventive genius to prefer instruments of his own devising to others better adapted to the purpose, but made by some one else.

A paper on the Electrolysis of Fibroids, also sent by Dr. Cutter, was read by Dr. Dunster, and on motion was referred to the Committee on Publication.

Dr. Pallen presented drawings of lacerated perinæum, and explained his operation for restoring the posterior wall of the vagina, which he termed transposition of the vagina and vaginal cervoplasty, which admits of explanation only by demonstration or a series of diagrams.

The annual address of the chairman, referred by the general session, now came up for discussion. Dr. Albert H. Smith said that while a presentation

can be changed in many cases by external or conjoined manipulation, efforts to convert an occipito-posterior position into an anterior one, and to maintain it until delivery, had, in his hands, proved uniformly ineffective. In regard to tying the cord (the address having recommended delay until the placenta was being compressed by returning uterine contractions), he stated that he did not regard the early or late ligature as an important question, but his practice was to tie as soon as the pulsation ceases. He did not bandage after delivery.

SECTION III.

Surgery and Anatomy: Dr. Moses Gunn, of Chicago, chairman; Dr. J. R. Weist, of Richmond, secretary.

Dr. A. C. Post reported a case of deformity of the face and hands occasioned by cicatricial contraction following a burn, in which satisfactory results followed a series of plastic operations.

Aspiration of the Knee-Joint was the subject of a paper by Dr. H. O. Marcy, of Massachusetts, which elicited considerable discussion, the conclusion being that in obstinate cases of serous effusion aspiration might be resorted to with advantage, using a needle large enough to permit the discharge of flakes of fibrin; in purulent exudation it was advised to open the joint for free drainage under antiseptic precautions.

Dr. Turnipseed presented some new instruments, including a new surgical needle, curved and spring clamp at the point; new apparatus for treating fractured clavicle; and new method of reducing dislocation of the elbow-joint, which brought out considerable discussion, the general verdict being adverse to the plans of treatment recommended.

Dr. Dawson, of Ohio, exhibited some urinary calculi, and Dr. Mathan, of Kansas, read a report of a case of chronic dislocation of the hip-joint.

On Wednesday, Dr. Louis A. Sayre, of New York, read a paper on the Treatment of Spondylitis by Suspension and Retention in the Improved Position by means of the Plaster-of-Paris Bandage, in which he contributed the condensed history of more than a hundred cases which he had treated by this method, which demonstrated the good effects of the treatment. At the request of the section, he publicly applied the jacket upon a patient after the section adjourned, and again on Friday morning after the adjournment of the Association.

A case was reported by Dr. Quinby, of New Jersey, illustrating the value of conservative surgery; and Dr. J. E. Sink, of Indiana, read a paper recommending amputations by the cone-shaped method, which was generally discussed.

Dr. H. F. Campbell, of Augusta, read a paper upon Urinary Calculus, with Consideration of its Hygienic, Ætiological, Pathological, and Surgical Relations, based upon the clinical histories of forty-six cases.

The secretary presented a communication from Dr. William Scott upon the removal of uterine growths by the écraseur; and also one on the treatment of hæmorrhoids by carbolic-acid injections, by Dr. Weist, which was generally approved in the extended discussion which followed.

Dr. Maddux, of Maryland, read a protracted paper upon the Nature of Gonorrhœa, which was remarkable from the fact that after a long dissertation

upon ethnology and the history of the world, including original sin, it had very little to say about gonorrhœa. It was referred without discussion.

Dr. T. F. Rochester presented a pathological specimen of perityphlitic abscess opening into the bladder and rectum, and made some remarks upon the case; after which Dr. A. W. Pollock, of Pennsylvania, exhibited a new inhaler for the administration of anæsthetics, which is quite as efficient as any in use, but less convenient than the ordinary towel.

The chairman, in his annual address, spoke in the highest terms of antiseptic surgery, of rapid lithotrity on the plan of Dr. Bigelow, and other evidences of material progress in surgery. He devoted considerable time to the discussion of the formation of pus, and, inclining to Cohnheim's views, he declared that necrobiotic change causes softening and degeneration, but never furnishes pus, the cells of which always migrate from the neighboring capillary blood-vessels.

The question of dividing the section on surgery and anatomy, and creating one to be known as the section on syphilis and the genito-urinary organs, including dermatology, which had been referred by the general session to this section for its decision, in the course of discussion was generally opposed, and was therefore withdrawn by its author, with the consent of the section.

SECTION IV.

State Medicine, etc. Dr. Billings being prevented from serving as chairman by temporary illness, Dr. J. L. Cabell was unanimously elected to preside; Dr. J. T. Reeve, of Wisconsin, secretary.

Dr. A. N. Bell announced that by the action of the Association Sections IV. and V. were consolidated. He also announced the death of Dr. Wm. N. Compton, of Mississippi, the chairman of the section on medical jurisprudence.

Dr. E. Grissom paid an eloquent tribute to the memory of Dr. Compton, who had perished during the last epidemic in his efforts to save his fellow-men. The chairman appointed Drs. Grissom and Toner to prepare proper resolutions on the death of this distinguished physician. The report of this committee was a high tribute to the virtues and attainments of Dr. Compton; it deplored his untimely death, expressed deep regret at the loss to the profession, and declared a determination to cherish his memory. The resolutions were adopted, and ordered to be placed on the minutes.

The first paper presented was by Dr. H. A. Johnson, on The Regulation of Medical Practice by State Boards of Health as Exemplified in Illinois, which satisfactorily demonstrated the value of state supervision over the practitioners of medicine, and detailed the thorough reform effected in Illinois by the operation of the new law.

Dr. Rauch, of Chicago, also spoke of the success of the present system of regulation of practice in Illinois, and of the influence it had already exerted in elevating the average standing of the profession, acting beneficially both to the profession and the public.

Dr. Gihon, U. S. A., favored any regulation that would prevent pretenders and charlatans from imposing on the public. Considerable discussion followed of the same general tenor.

An excellent paper upon State Medical Societies and State Medicine was

read by Dr. S. E. Chaillé, of Louisiana, which was listened to with marked attention; and, upon a motion to that effect, he was requested to repeat it the next morning before the general session. (The conclusions of the paper were subsequently formally adopted by the Association.)

Dr. E. Seguin read a short paper describing a deformity of the upper extremity, which he termed a psycho-physiological hand, and which he observed to follow epilepsy. From this he was led to recommend the education of idiots by the cultivation of the senses, and gave an account of an interesting case of idiocy trained by a lady in New York.

Dr. Dunster, at the request of the chairman, read a rather lengthy paper on the Principles of Protective Sanitation in its Relation to Public Hygiene, by Dr. Storer, who was not present. The paper was referred without discussion.

In the place of a report on the intervention of Physicians in Education, by Dr. R. J. O. Sullivan, of New York, who was absent, Dr. E. Seguin made some remarks upon the subject, urging such intervention as a duty.

A paper on the Medical Examiner System of Massachusetts, by Dr. F. A. Harris, was read and referred to the publication committee.

A report was received from Dr. Billings, of Washington, on the Construction of Hospitals, which was accompanied by numerous diagrams and illustrations. After reading, this was also referred for publication.

The section then considered the recommendations in the address on State Medicine, presented by Dr. Woodworth to the Association on behalf of Dr. Billings, who was the chairman of the section, but incapacitated by illness from attending.

The resolutions call upon the American Medical Association to recommend that every physician shall aid the superintendent of the census in his efforts to make up the statistics of mortality; and, secondly, that every physician make a record of all his cases from the first of June. Blanks will be furnished for such reports on application.

These resolutions were adopted.

The section also announced its approval of measures calculated to organize county medical societies, and promised, whenever it may be deemed necessary, to adopt such steps as would contemplate gathering all the members of the profession, in good standing, into their respective county societies.

SECTION VI.

Ophthalmology, Otology, and Laryngology. H. Knapp, of New York, chairman. In the absence of Dr. Scott, appointed at the last meeting, Dr. Calhoun, of Atlanta, was elected secretary.

The first paper was read by Dr. Williams, giving an interesting account of a case in which there was an ivory exostosis of the orbit, with the operation.

Dr. Voorhees, of Memphis, reported a case of impairment of vision following excessive doses of quinine.

The chairman then presented some microscopic preparations of a sarcoma of the optic nerve, and others showing degeneration of the iris and ciliary body, probably of tuberculous and syphilitic nature, which led to a most interesting and valuable discussion, which also included the diagnosis and treatment of syphilitic diseases of the cornea.

On Wednesday the section held an extra session in the morning from nine to eleven o'clock, to discuss cataract operations. A paper was read by Dr. Knapp on Cataract Extraction. Dr. Calhoun presented a report of one hundred and eighty-five cases of cataract operations, with some suggestions as to the mode of operating and the after-treatment. Dr. Pope, of New York, also read a paper on the same subject. The papers were very generally discussed. Dr. Knapp condemned the peripheral incision of the capsule, as recommended by Von Graefe. as frequently requiring a secondary operation for the removal of an opaque capsule. He favored a central or vertical incision as less likely to interfere with the nutrition of this structure. He exhibited a fine, sharp-pointed needle cystotome which he had devised and generally employed in the operation, and reported a series of seventy cases in which this operation was performed, in which there occurred neither iritis nor capsulitis, but the eye was perfectly clear after the second day.

In a case of Morgagnian cataract it was agreed that the incision into the capsule should be on a level with the upper edge of the nucleus. In those cases where the capsule is opened by a V-shaped incision, it often occurs that the tongue between the lines curls forward, and causes adhesion of the lip of the wound to the stump of the ciliary muscle; or it may adhere to the inner wall of the cornea, or may set up irritation requiring extirpation of the globe.

The opinion was generally expressed that a primary iridectomy was better for the patient, but disadvantageous to the operator, as many of the patients would not return, because the first operation apparently did them no good.

A paper describing an operation for the radical cure of cystoid cicatrix was read by Dr. D. S. Reynolds, based on thirty-four cases. The procedure recommended was by means of a fine silk ligature to take a stitch in the sclera and one through the superficial layers of the cornea, drawing the thread tightly over the cystoid projection and tying the ends. The cyst disappears into the anterior chamber, and the corneal stitch comes out in a couple of days. Dr. Knapp spoke favorably of the operation, and said that the condition is more frequent than is generally supposed.

Dr. Eugene Smith reported a successful operation upon a case of xerophthalmia. Dr. Knapp exhibited several specimens, one of plastic cystitis; another of traumatic origin, showing a piece of brass lying in the ciliary body.

The chairman also gave a fine demonstration of the stages and effects of mastoid disease, which was illustrated by diagrams and the use of the blackboard and closed by exhibiting a number of microscopical specimens and instruments.

Dr. Knapp's annual address before the general sessions was a very able review of the advance in ophthalmology and otology for the past year. He recommended the application of the metric system in the formulæ of oculists, and referred to the introduction of new remedies into ophthalmic practice. He considered the present treatment of glaucoma as unsatisfactory, and spoke in favorable terms of the use of eserine in this disease. No abstract, however, could do justice to this valuable and condensed report, which was heard with marked attention throughout, and warmly applauded.

THE HARVARD MEDICAL SCHOOL AND WOMEN.

THE question of admitting women to the medical department of the first university of America has been of late the subject of much discussion; and now that the affair appears to be reaching a crisis it is proper that we should lay before our readers some account of what has been done, and express in no uncertain language what we believe is the sentiment of the majority of the profession.

Mr. George O. Hovey, who died rather less than two years ago, left a large sum of money to be employed for benevolent purposes according to the discretion of the trustees. One of these, Miss Hovey, the daughter of the testator, wrote to President Eliot on March 21, 1878, offering to give the Harvard Medical School the sum of ten thousand dollars, on condition that women should be admitted to its advantages "on equal terms with men." About the same time there was a good deal of bustle among prominent sympathizers in the woman movement; several members of the faculty were "interviewed," and it soon became an open secret that if the proposal should be accepted a much larger sum than that offered by Miss Hovey could be obtained in addition to it, — that is, if this additional sum should be insisted on. In due time the matter came before the overseers of the university, and the following gentlemen were appointed a committee to report upon it: Alexander Agassiz, chairman; Dr. Morrill Wyman, President Eliot, J. Elliot Cabot, and Dr. LeBaron Russell. After a year's consideration the committee has presented two reports, that of the minority being signed by Dr. Russell alone. We understand that these reports have been discussed by the overseers, but final action has not yet been taken. The report of the majority favors the admission of women under certain conditions, which we will mention later. We feel not a little diffidence in speaking our mind on a report signed by such distinguished men, but it is, we believe, our duty to assert that the report does not do justice to the difficulties of the case, and that the premises in no way warrant the conclusion. We will follow the line of argument with all possible brevity, making our comments as we go along.

The majority begin by stating that they have studied the results of experiments made in this direction in America, England, and on the continent of Europe, and that they find the evidence inconclusive. One reason of this, they say, is that the social conditions in Europe are so different from these in America that the experience of the former does not apply to the latter. We must object to the second of these statements, at least. The question at issue is largely one of principle. There is a radical distinction to be drawn between morals and manners. What is objectionable in its very essence is as much to be condemned in one country as in another.

The report shows conclusively that the number of women in Europe who avail themselves of their opportunities is insignificant, and that the extent of the "woman movement" has been greatly exaggerated. The majority believe that we must discard precedents, and consider the question "on its own merits." They assume that the demand for female physicians is increasing, and likely to increase still more. Their reasons for this opinion strike us as open to a contrary interpretation. The report continues: —

"The problem is a serious one for the university. Thus far it has educated men, and men alone, and has always found its resources inadequate for this work. The governing boards might properly decline to enlarge the university's sphere of action, even for ends of approved utility; and it is emphatically their duty to refuse to try experiments which might impair the execution of the trusts they have already assumed."

Here is a strictly logical conclusion. We cannot understand why, when they had reached it, the majority did not feel that they had done their whole duty. They, however, thought otherwise, and next take up the question of establishing a completely separate school for women, which they put aside as too serious an undertaking. "It is even stated," says the report, "by a considerable number of the most highly cultivated women physicians of the country that the same intellectual standard cannot be maintained in a medical school devoted to women alone as in a school for men; and they further assert that the intellectual stimulus obtained by the female students from their association with men is an all-important element of success." We confess we are surprised at so frank an admission of inferiority. Yet a few lines further on the majority tell us that "under these circumstances" they think it desirable that the experiment of admitting women to the Medical School should be tried.' More surprising still, they assure us that "their opinion is based not only on carefully weighed statements of views favorable and unfavorable to the movement, but upon consultation with the professors and teachers of the Medical School, and upon individual expressions of opinion from the members of the Massachusetts Medical Society." Let us see what the basis of this statement may be.

The committee sent the following questions to about thirteen hundred members of the State Medical Society: —

"(1.) Are you in favor of admitting women to the Medical School?

"(2.) Are you in favor of admitting women on equal terms with men?

"(3.) Are you in favor of a separate school for women?

"(4.) If in favor of medical coeducation, specify the subjects which, in your opinion, can be taught in common, and those in which men and women should receive separate instruction."

The report states that seven hundred and twelve answers were received, and gives a very good classified list of the answers to questions 1, 2, and 3. When, however, the majority came to interpret the answers, they chose to employ those to question 4. It is well known that statistics may be made to prove pretty nearly anything, and the majority find that about five hundred and fifty "are in favor of the admission of women, or in favor of some form of recognition." We have not space to go into the matter thoroughly, but we must beg leave to point out that the majority do not present the following facts: Five of the seven hundred and twelve who answered gave no definite reply to 1, 2, and 3. Question 1 was answered in the negative by three hundred and fifty-six, more than half, and question 2 by three hundred and sixty-seven.

Let us now turn to the views of the faculty of the Medical School. We will quote from the report: —

"Of twenty-one members of the medical faculty, who expressed their views in writing, six are in favor of admitting women to the school with restrictions. Three are in favor of making the experiment, but have strong doubts of its expediency or success. Seven are strongly opposed to the plan. Five are opposed, but willing to try the experiment under certain conditions.

"Of the six in favor, only one is in favor of admission without restrictions.

"Of the nine more or less in favor, four require a guarantee fund of $200,000.

"Of the twelve more or less opposed, five consider $200,000 as the sum necessary to warrant the trial of the experiment, if it is to be tried at all."

It is thus evident that the largest number who thoroughly agree with one another is seven, who are strongly opposed to the plan, and that a majority (twelve) are more or less opposed to it. We fail to make out how many are strongly in favor of the plan, but it is clear that it is a small minority.

It is in the face of these facts that the majority of the committee affirm that their opinion is based "upon consultation with the professors and teachers of the Medical School, and upon individual expressions of opinion from the members of the Massachusetts Medical Society." It seems to us that they are acting in defiance of both.

The majority recommend the acceptance of Miss Hovey's offer on the following conditions: —

"That, after the completion of a new building, women be admitted to the Medical School as an experiment for a period of ten years. That they be not less than twenty-two years of age. That the requisitions for admission and the course of study be the same as for men. That the examinations for women and men shall be identical. That nothing shall be countenanced which will in any way lower the standard of the school, or affect the execution of the plans laid out for its development. That the courses of lectures in which students take no active part be open to both men and women; that for personal instruction in laboratories and for recitations the two sexes be separated; and that a complete separation be made in such subjects as obstetrics, the diseases of women, certain portions of anatomy and physiology, and the like."

They believe that sixty or sixty-five thousand dollars would be sufficient to meet the expense caused by the experiment, but that a considerable endowment would be necessary should the plan be permanently adopted.

Dr. Russell's report is a truly admirable one. It shows the omissions and inconsistencies to which we have alluded in the majority report. It points out that, much as the school has done for medical education, the faculty are not yet satisfied with its course, and desire still further advances.

"It is urged that the present is an unfavorable time for the trial of a new experiment which may interfere seriously with those now in progress, and postpone indefinitely some of the important improvements proposed. It is held that the permanent interests of the school, and of the large classes of male students, for whom it was originally established, and to whom it must always look for its chief support, ought not to incur any additional risk at this critical period of its history."

Dr. Russell calls attention to one practical point which we are surprised the majority should have overlooked: —

"It is estimated that the time required for the studies which, by the plan of the majority of the committee, would be pursued separately by women amounts to about four fifths of the time occupied by the whole course. A school for men, which, while in terms admitting women, excludes them from attendance upon so large a number of exercises, and requires separate instruction in so many branches, would be less advantageous to women than a school established exclusively for their own sex."

He recommends the establishment of a distinct school for women.

We trust the overseers will take speedy and decisive action. We are anxious to know whether Harvard intends to remain true to her boasted policy of steadily improving medical education by methods of acknowledged worth, or whether for a "consideration" she will experiment with whatever theory may be the fashion of the day.

MEDICAL NOTES.

— The physicians and surgeons of the City Hospital gave a dinner at the Union Club to Dr. Edward Cowles on the 19th of April last, on the occasion of his leaving the hospital to be superintendent of the McLean Asylum, at Somerville. Thirty-two gentlemen, comprising the consulting board, the staff, and the physicians and surgeons to out-patients, with their guest, sat down to dinner, Dr. C. D. Homans presiding. During the evening Dr. Cowles was presented with a coffee-set of silver, suitably inscribed. No formal speeches were made, but the esteem and regard of the company for one who had served the hospital so honorably in the trying years just passed were warmly and forcibly expressed.

— The annual meeting of the Worcester District Medical Society was held in their hall in Worcester on the 14th inst. Dr. F. D. Brown of Webster was reëlected president, Dr. G. J. Bull secretary, Dr. L. S. Dixon librarian, Dr. L. Wheeler treasurer. The annual oration, on Fashion in Medicine, was delivered by Dr. J. O. Marble of Worcester. About fifty members afterwards sat down to a social dinner at the Lincoln House.

— Dr. L. P. Blackburne has been nominated by the democrats of Kentucky as governor. Although something of a politician, his success seems to have been mainly due to gallant efforts last summer to keep yellow fever out of the State. The nomination appears to have been received with great satisfaction by his colleagues throughout the State, and the *Louisville Medical News* says: "Doctors in plenty have indeed been in politics, at home and abroad, and have won high honors in the State, but we know of no other instance where a doctor has been given the highest office in the gift of the people as a reward for professional services."

— In our last number we gave a simple announcement of the death of Dr. Charles Murchison, of London, whose influence as a physician, writer, and lecturer has been unusual. He died suddenly, of heart disease, while engaged in seeing his private patients. In Dr. Murchison, not only England, but the entire professional world, loses an invaluable man. His judgment was so reliable that his opinion was unquestioned. As a lecturer he inspired the utmost confidence, and his clearness and careful precision in presenting the points of

a case will not soon be forgotten by those who enjoyed the privilege of his instruction. In the fitting words of the *London Lancet*, "Dr. Murchison was not merely an accomplished physician, but a good, great, and wise man."

— The *Journal of the Royal Microscopical Society* says: "Dr. Helmholtz believes that even with further improvements in the construction of objectves, and the assistance afforded by the immersion and reflex illuminators, no great increase in the resolving power of the microscope will be obtained."

— Dr. Risdon Bennett has been reëlected president of the Royal College of Physicians of London.

NEW YORK.

— A case of considerable interest to the profession has for several days been going on in the supreme court circuit. This was a suit brought by Mrs. Mary Ann Proctor against the Manhattan Eye and Ear Hospital for $50,000 damages for loss of her eyesight, as the result of alleged unskillful operations for glaucoma of both eyes while an inmate of that institution. After the conclusion of the testimony for the defense, which included the evidence of Drs. Roosa and Loring (who performed the operations), as well as that of a number of other prominent physicians, surgeons, and eye specialists, motion was made to dismiss the complaint without submitting the case to the jury, on the ground that the surgeons gave their services gratuitously, and exercised ordinary care and diligence, which was all that was required of them. This was promptly granted by Judge Lawrence, before whom the suit was tried, who held that the act of 1869 creating the institution constituted it a *quasi* public corporation of a charitable nature, and decided (principally upon the authority of a similar case in Massachusetts) that such a corporation, the object of which was to provide a general hospital for the treatment of diseases of the eye and ear, having no capital stock or provision for making dividends or profits, deriving its funds mainly from public and private charity, and holding them in trust for the object of sustaining the hospital, after having exercised due care in the selection of its agents, was not liable for injury to a patient caused by its agents' negligence, if negligence was established. Furthermore, he said, there was no proof whatever that the surgeons who treated the patient were unskillful or negligent. On the contrary, they were shown by the testimony of men most eminent in the medical and surgical profession to be especially skilled, and the evidence was uncontradicted that they had exercised care and diligence in the exercise of their skill in this patient's case. But even if they had made a mistake of judgment, it would not justify submitting the case to the jury. The burden of proof was on the plaintiff to make out a *prima facie* case, and this had not been done.

— The reports that yellow fever has appeared in Hayti, and that it may become prevalent in other portions of the West Indies, have caused the quarantine officers to take unusual precautions in regard to vessels coming from these quarters. Two schooners have recently arrived from St. Marc, Hayti, and on one of them the cook died from a fever at least resembling yellow fever in its symptoms, while the mate was also ill from the same, but recovered. The steamship Andes, which was the first passenger vessel to arrive from the West Indies since it was reported that yellow fever prevailed in epidemic form in the cities of Port-au-Prince and St. Marc, came in on the 14th of May. If she

had arrived one day later, she might have been detained at lower quarantine, since the law relating to the quarantining of vessels arriving from infected ports goes into effect on the 15th of May each year. As it was, she was detained only long enough to be inspected by the health officer and thoroughly fumigated. There was no sickness of any kind on board, and the officers reported that the Haytien officials all denied that yellow fever prevails as an epidemic anywhere on that island. The Andes arrived at Port-au-Prince on the first of May, and did not stop at St. Marc on her return voyage.

— E. B. Treat, of New York, will shortly issue a series of photographic illustrations of skin diseases, edited by Dr. George Henry Fox. They will be selected from a large number of photographs taken from selected cases in several of the large dispensaries and hospitals. They will be colored by a medical artist of experience. The work will be issued in twelve parts, and will contain forty-eight plates.

CHICAGO.

— At the last meeting of the West Chicago Medical Society, the president and secretary (Drs. Bridge and Bedfield) were reëlected.

— Professors Gunn, Miller, and Ross, of Rush College, and Dr. G. M. Chamberlin, of St. Luke's Hospital, are preparing to sail for Europe on the 28th inst., to be absent about three months.

— Professor Parkes is now in London, observing the surgery of the hospitals. He returns in the fall.

— Dr. O. C. Oliver has just returned from a sojourn of a year in Europe, where he has pursued the study of histology.

THE AMERICAN MEDICAL ASSOCIATION.

Mr. Editor, — One of the resolutions adopted by the American Medical Association speaks of Atlanta as the Queen City of the Empire State of the South, and we must admit that it was no ordinary provocation that could lead this sedate assembly and still more staid author of the resolution thus to break out into poetry in a friendly way; there must have been something unusual in the character of the people, in the situation of the city, and in the greeting of its physicians, or all combined, which was calculated to inspire unusual sentiments in hyperborean hearts. Let us speak first of the entertainments offered by the physicians and citizens of Atlanta, and, in conclusion, of the natural advantages and attractions.

On Tuesday, May 6th, in the evening, the members of the Association were invited to call upon Governor Colquitt, at his residence, where they were very cordially received. On Wednesday evening a number of receptions were given by the prominent citizens of Atlanta, when at least a dozen bright and cheerful homes, that would have been considered an acquisition to any city in the Union, were thrown open to the doctors, who were for the time considered as the guests of the city. From nine to twelve o'clock, there was a kaleidoscopic succession of handsome and refined ladies, dazzling drawing-rooms, pyrotechnics and Chinese lanterns, love and lobster salad, chit-chat and champagne, sufficient to make the too susceptible portion of the company feel that there was some

witchery about it, or that they had entered the land of the lotus-eaters; even those who are generally considered to be less impressible were surprised and gratified and honored by the hearty hospitality and the unmistakable warmth of their welcome.

On the evening of Thursday, May 8th, a grand banquet was given at the Kimball House, at which over five hundred guests were seated; it was said to have been the finest entertainment ever given in Atlanta. The members of the American Medical Association and of the Public Health Commission received invitations, and both bodies were well represented. The character of the toasts given and the responses were largely national and patriotic, and the sentiment offered by Dr. Davis, that he would recognize no East and no West, no North and no South, but only America, one and indivisible, which was received with universal applause, was repeated in various forms through the evening, always with the same effect. The following were the toasts: —

Atlanta welcomes her Guests, Hon. Wm. Lowndes Calhoun, mayor of Atlanta. Regular Toasts: (1.) The American Medical Association, Dr. N. S. Davis, of Chicago. (2.) Our Retiring President, Dr. Theophilus Parvin, of Indiana. (3.) Our President Elect, Dr. Louis A. Sayre, of New York. (4.) The Sanitary Commission, Dr. J. L. Cabell, of Virginia. (5.) Our Martyr Dead (The traditional heroism of the Profession fitly illustrated by the recent noble accessions to the Roll of Honor), Dr. S. M. Bemis, New Orleans. (6.) The Atlantic Coast, Governor Alonzo Garcelon, of Maine. (7.) The Pacific Slope, Dr. R. B. Cole, of California. (8.) Our Northern Lakes, Dr. O. W. Wight, of Wisconsin. (9.) The Gulf States, Dr. H. W. Brown, of Texas. (10.) Our Common Country, Dr. Eugene Grissom, of North Carolina. (11.) The Nestor of American Surgery, Dr. Samuel D. Gross. (12.) The Ladies, Dr. Montrose A. Pallen, of New York.

These were followed by volunteer toasts, among which was one to The Entertainment Committee, offered by Dr. A. N. Bell, of New York.

The banquet broke up at a late hour, and the company dispersed with evident reluctance. The music was furnished by a United States military band belonging to an artillery company located in the city.

On the following evening the citizens tendered a grand reception to their guests at the Kimball House, where there was an unusually fine collection of young ladies, and dancing continued until it was nearly time to escort some of the visitors to the early train, which left about five o'clock. This and other circumstances seemed to afford some ground for the statement, made by one of the delegates on the succeeding day, that Atlanta was a first-rate place for eating or drinking, but a poor place for sleeping, as he had not slept eight hours since he came into the place.

On Saturday a number of delegates accepted the invitation tendered by the citizens of Augusta to the Association to visit that city, and attend a "Georgia barbecue." The weather was delightful, and everything was favorable to their enjoying their visit. Some of the delegates before returning home visited Stone Mountain, which is visible from Atlanta; others went to Chattanooga and Lookout Mountain, and quite a number went to Danville, Kentucky, where on the 17th inst. a statue of Ephraim McDowell, the founder of ovariotomy, will

be uncovered, Professor Gross having promised to deliver an oration on the occasion.

The recollections that these visitors carry home with them are of the most agreeable character. The cordiality of the people, their enlightened public policy and progressive spirit, the many natural advantages of Atlanta, and its superior climate must inevitably attract immigration; it is a city with a future, and truly deserves the title given to it by Dr. Logan as the "city of great possibilities." Thirteen years ago Atlanta had scarcely half a dozen habitable houses, the fortunes of war had overtaken it, and the city was literally burned to the ground. In the comparatively short period that has elapsed since that time, it has become a large city, with nearly forty-two thousand inhabitants, and growing at the rate of eight thousand to ten thousand each year. Since 1869 it has been the capital of Georgia, and being in addition an important commercial centre there is no reason why it should not continue growing. The climate is dry, the air pure, and the water is freestone, and in some places decidedly chalybeate. Atlanta is situated in a mountain region, on the last spur of the Blue Mountains, and the hills in the neighborhood give it most picturesque surroundings. It is said to be about ten hundred and fifty feet above the level of the sea, the thermometer rarely exceeds 85° F. in the summer, and the nights are always cool; during the winter the weather is cold and clear, but always keeps at a respectful distance from zero. The advantages of Atlanta as a health resort are many: the markets are well supplied, and as good a table can be found there as in cities further north, but with the advantage of early fruits and vegetables, strawberries being shipped from Florida in February. Living is quite cheap, — good board can be obtained at twenty dollars a month; the supply of fresh, pure air and wholesome water and food is unlimited. The Ponce de Leon spring is a pleasant place of resort, about three miles out of the city, where is found a chalybeate spring situated in a charming grove.

The statement of the oldest inhabitant is that pulmonary consumption is always imported, as it never originates here; no epidemic has ever invaded the city; and it is entirely free from yellow fever and malaria, except in the case of invalids or refugees from the surrounding country, who sometimes come here as a health resort, — about four or five cases of yellow fever having been all that were seen in Atlanta during the great epidemic, and these having rapidly recovered after reaching the city. The only complaint of the place comes from the doctors, who say that it is too healthy. With the exception of the beds for the accommodation of surgical patients operated upon at the clinic of the Atlanta Medical College (which is closed during the summer), there is no public hospital in Atlanta.

Owing to the commanding position of this city as a commercial centre, it is thought that students of medicine can be brought here by increasing the facilities, and it is said that the ground is already purchased for another medical institution, to be called the Southern Medical College, which is to have a public hospital connected with it. It is expected to be ready for students next fall.

Georgia hospitality to those who have experienced it is synonymous with all that is free, open, and warm-hearted. As a further intimation of the sentiments of the people, and an assurance that visitors are made welcome, I can-

not close this letter in any better way than by quoting a paragraph from the *Southern Enterprise*, a journal published in Atlanta, whose object is "the development of the material resources of our country:" —

"We wish our Northern friends to know more of us, and we wish to *see* more of them come to make their homes among us. We believe that a mutual interest is involved in this. We are concerned with no real-estate agency, and have no lands to sell. We labor for the public good, incited by higher motives than mere self-interest. We love our country, and desire to see it prosper. We believe that a large influx of industrious Northern citizens will not only conduce to the material development and prosperity of the South, but contribute to the interest, fortunes, and happiness of the immigrants, and to the harmony, prosperity, and permanence of the Union. We need to know each other better to remove sectional prejudice, misunderstanding, and distrust, excited by unscrupulous, designing politicians." (April, 1879.)

Believing that this expresses the liberal and progressive spirit of the people, I feel assured that immigrants are wanted and will be welcomed. F. W.

ATLANTA, *May* 10th.

REPORTED MORTALITY FOR THE WEEK ENDING MAY 10, 1879.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Annual Death-Rate per 1000 during the Week.	Percentage of total Deaths from				
				The Principal "Zymotic" Diseases.	Pneumonia.	Scarlet Fever.	Diphtheria and Croup.	Diarrhœal Diseases.
New York	1,085,000	509	24.46	22.59	11.78	8.25	4.52	1.96
Philadelphia	901,380	296	17.12	14.50	8.78	3.04	1.36	3.04
Brooklyn	564,400	160	14.78	15.00	7.50	2.50	5.63	1.25
Chicago	—	127	—	22.04	7.09	6.29	8.66	1.58
St. Louis	—	85	—	14.12	10.59	—	1.18	2.35
Baltimore	365,000	126	18.00	15.08	7.14	3.18	5.56	—
Boston	360,000	123	17.81	10.57	9.76	—	4.07	3.25
Cincinnati	—	83	—	27.71	8.43	15.67	4.82	—
District of Columbia	160,000	83	27.01	15.66	9.64	1.21	2.41	2.41
Cleveland	—	51	—	9.80	15.69	1.96	3.92	1.96
Pittsburgh	—	49	—	18.37	6.12	4.08	10.24	—
Milwaukee	—	—	—	—	—	—	—	—
Providence	101,000	33	17.03	18.18	3.03	3.03	9.09	—
New Haven	60,000	—	—	—	—	—	—	—
Charleston	57,000	26	23.78	3.85	3.85	—	—	3.85
Nashville	27,000	12	23.17	25.00	—	—	—	8.33
Lowell	53 3 0	—	—	—	—	—	—	—
Worcester	52,500	13	12.91	30.77	—	—	7.69	7.69
Cambridge	51 400	16	16.22	12.50	12.50	—	6.25	6.25
Fall River	48,500	—	—	—	—	—	—	—
Lawrence	38,200	13	17.75	15.39	15.39	—	15.39	—
Lynn	34,000	16	24.54	6.25	25.00	—	6.25	—
Springfield	31,500	8	13.24	25.00	—	—	25.00	—
New Bedford	27,000	11	21.24	36.36	27.27	8 33	18.18	—
Salem	26,400	12	23.70	25.00	—	—	8.33	—
Somerville	23,350	10	22.33	10.00	30.00	—	—	—
Chelsea	2 ,800	6	15.04	16.67	—	—	16.67	—
Taunton	20,200	5	12.91	—	20.00	—	—	—
Holyoke	18,200	10	28.65	20.00	—	10.00	—	—
Gloucester	17.100	6	18 29	—	50.00	—	—	—
Newton	17,100	4	12.20	—	—	—	—	—
Haverhill	15,300	6	20.45	—	16.67	—	—	—
Newburyport	13,500	6	23.17	16.67	16.67	—	—	—
Fitchburg	12,500	6	25.03	—	—	—	—	—

One thousand nine hundred and eleven deaths were reported: 331 from the principal "zymotic" diseases, 295 from consumption, 185 from pneumonia, 87 from diphtheria and croup, 87 from scarlet fever, 50 from bronchitis, 36 from diarrhœal diseases, 30 from whooping-cough, 28 from typhoid fever, 21 from erysipelas, 13 from malarial fevers, 11 from

measles, 11 from cerebro-spinal meningitis, four from intermittent fever, three from remittent fever, none from small-pox: indicating a considerably decreased mortality from all causes, pulmonary diseases, total zymotic diseases, and especially from scarlet fever; increased from whooping-cough and typhoid fever. From *bronchitis*, 23 deaths were reported in New York, six in Brooklyn, five in Boston, three in Philadelphia and St. Louis, two in District of Columbia and Providence, one in Chicago, Cleveland, Cambridge, Salem, Holyoke, and Newton. From *whooping-cough*, 21 in New York, three in District of Columbia, two in Boston and Cincinnati, one in Brooklyn and Somerville. From *typhoid fever*, eight in Philadelphia, three in Chicago, two in New York, Brooklyn, Baltimore, District of Columbia, Providence, Nashville, and New Bedford, one in Worcester, Salem, and Holyoke. From *erysipelas*, six in Philadelphia, four in New York, two in Brooklyn, Chicago, St. Louis, Boston, and Cincinnati, one in Baltimore. From *malarial fevers*, nine in New York, four in St. Louis. From *measles*, three in Baltimore, two in New York, St. Louis, and Pittsburgh, one in Brooklyn and Cleveland. From *cerebro-spinal meningitis*, two in New York, Chicago, and Cincinnati, one in Philadelphia, Baltimore, and District of Columbia. From *intermittent fever*, two in Brooklyn and District of Columbia. From *remittent fever*, one in Baltimore, Brooklyn, and District of Columbia. Pulmonary diseases were prevalent in the large Southern cities, but no zymotic diseases to any considerable extent; diphtheria still prevailed in Buffalo and Pittsburgh. In seventeen of the nineteen cities of Massachusetts, pneumonia and diphtheria continued the most prevalent of the acute diseases, the mortality from the latter and from scarlet fever decreasing.

The weather was generally reported fine, with a few showers here and there, the meteorological record for the week in Boston (latitude 42° 21′, longitude 71° 4′) being as follows: —

Date.	Barometer.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather.[1]			Rainfall.	
	Mean.	Mean.	Maximum.	Minimum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in Inches.
May 4	29.858	54	67	41	59	39	63	54	SW	SW	S	8	18	10	C	F	O	—	—
" 5	29.739	63	76	50	90	32	46	56	SW	SW	SW	11	10	10	H	F	C	—	—
" 6	29.916	58	67	50	71	60	35	55	O	SE	NW	0	8	16	H	F	F	—	—
" 7	30.106	54	66	43	62	36	48	49	W	NW	N	16	16	12	C	F	F	—	—
" 8	30.323	54	60	46	67	48	56	57	NW	SE	SW	6	6	7	C	F	C	—	—
" 9	30.515	53	62	45	72	58	47	59	N	E	SE	2	5	5	C	C	C	—	—
" 10	30.460	54	60	45	50	50	36	45	O	SE	S	0	12	9	H	C	C	—	—
Week.	30.131	56	76	41				54		SW		1407 miles.							

[1] O., cloudy; C., clear; F., fair; G., fog; H., hazy; R., rain; S., snow; T., threatening.

For the week ending April 19th, in 149 German cities and towns, with an estimated population of 7,507,505, the death-rate was 28.2, an increase of 0.2 from the previous week; scarlet fever and whooping-cough showing greater fatality, and typhus fever less. Four thousand and seventy-eight deaths were reported: 689 from consumption, 507 from acute diseases of the respiratory organs, 159 from diarrhœal diseases, 140 from diphtheria and croup, 77 from whooping-cough, 54 from scarlet fever, 50 from typhoid fever, 37 from measles, 21 from puerperal fever, 12 from typhus fever, one from small-pox (in Berlin). The death-rates ranged from 17.3 in Kiel to 42.7 in Görlitz.

For the week ending April 26th, in the 20 English cities having an estimated population of 7,383,999, the death-rate was 24.9, a decrease of 1.0 from the previous week, the excessive mortality from pulmonary diseases still declining. Three thousand five hundred and twenty-nine deaths were reported: 491 from diseases of the respiratory organs, 147 from whooping cough, 81 from scarlet fever, 80 from measles, 42 from diarrhœa, 38 from fever, 28 from diphtheria, 10 from small-pox (in London). The death-rates ranged from 17.2 in Bradford to 29.5 in Leicester. Small-pox remains about the same in Dublin (nine deaths for the week).